

## Mechanical Engineering Drawing

Basic Course Specification					
Course Title	Course Code	Program on which the course is given			
Mechanical engineering drawing	ME 252T	Bachelor			
Academic Year	Specialization (hr/week)	Pre-Requisites			
2020 - 2021	Application 3 hr./week Lab. 3 Credit 3	ME151T			
Overall Course Objectives					
<ul style="list-style-type: none"> <li>This course provides more applications to mechanical Engineering Drawing –to relate the applications of drafting techniques to mechanical Engineering practice.</li> <li>This syllabus covers the requirements of the STCW-78, as amended. In particular Chapter III, Section A -III/2 for the function “Marine Engineering at the management Level”, STCW-78, as amended. The syllabus is so designed With the guide of IMO Modelcourse7.02, version 2013, function1.</li> </ul>					
Course Learning Outcomes. By successful completion of the course each student will be able to:					
Topic	Linking to PLOs	7th Week Assessment	12 <sup>th</sup> Week Assessment	Class Activities	Final Exam
<b>By successful completion of the course each student will be able to:</b> <ul style="list-style-type: none"> <li>1) Apply essential facts, fundamentals, concepts, principles and theories relevant to Mechanical Engineering.</li> <li>2)Use the computer based graphics and modeling software to design parts</li> <li>3)Demonstrate individually the drawings of plan, elevation and cross sections of machine parts</li> <li>4) Acquire the basic knowledge of CAD drawing tools.</li> </ul>	f		√		
	d		√		√
	g,k	√	√	√	√
	a,i		√		√
Course Content					
Lec./ Week #	Topic	Hrs. #	Theoretical	Application	Lab.
1	-AutoCAD refreshment -Assembly drawing with applications in mech., industrial, and marine engineering	6	0	3	3
2	-2-D drawing revision -Assembly drawing with applications in mech., industrial, and marine engineering	6	0	3	3
3	-Creation of blocks. -Assembly drawing with applications and machining symbols	6	0	3	3
4	-Blocks Assembly -Freehand sketching	6	0	3	3

Course Content					
Lec./ Week #	Topic	Hrs. #	Theoretical	Application	Lab.
5	-Blocks Assembly -Conventional representation(Fasteners, power screw and assembly drawing applications)	6	0	3	3
6	- The use of design center blocks. -Conventional representation (locking devices) and assembly drawing applications.	6	0	3	3
7	Solid modeling, primitives and Boolean operations - 7th Week Exam	6	0	3	3
8	Solid modeling, primitives and Boolean operations. Conventional representation (keys and pins ) and assembly drawing applications	6	0	3	3
9	-Creating solid models from 2-D polylines. -Conventional representation (welding) and assembly drawing applications.	6	0	3	3
10	-Creating solid models from 2-D polylines. -Conventional representation(springs)and assembly drawing applications	6	0	3	3
11	-Viewing and modifying solids. -Conventional representation ( gears ) and assembly drawing applications	6	0	3	3
12	-Solids editing. -Surface Finish and assembly drawing applications conventional representation(Bearings)+12thWeek Exam	6	0	3	3
13	-Assembly of 3D exercise -Geometrical Tolerance and assembly drawing applications	6	0	3	3
14	-Assembly of 3D exercise -Limits and fits and assembly drawing applications	6	0	3	3
15	The use of engineering design and mathematical software. Hydraulic symbols and revision	6	0	3	3
16	<b>Final Assessment</b>				
<b>Total Hours</b>		<b>90</b>		<b>45</b>	<b>45</b>

Teaching & Learning Methods	Facilities Required for Teaching & Learning Methods
Apply by example Encourage critical thinking with applications to engineering drawing	Computers Computer Auto CAD software Smart board

Students Assessment Methods		
Assessment Schedule		
Assessment#1		Week 7
Assessment#2		Week 12
Assessment#3		Class Activities
Assessment#4		Week 16
Grading Method		
7th Week Assessment	Written Exam	30%
12 <sup>th</sup> week Assessment	Written Exam	20%
Class Activities	Quiz - tutorial	10%
Final Exam	Engineering drawings	40%
<b>Total</b>		<b>100 %</b>
Staff Requirements		
Marine Chief Engineer/ Ph.D.		
Course Notes	Essential Books	
Mech. drawing prob. and solution, م. سعد شاهين	<ul style="list-style-type: none"> <li>• Auto CAD help guide</li> <li>• Solid work help guide</li> </ul>	
Recommended Books	Periodicals and Publications	
Boundy, “engineering Drawings”, McGraw–Hill Co, Latest Edition	None	
IMO References		
None		

Accreditation Bodies
*Egyptian Authority for Maritime Safety (EAMS) European Commission (EC) *ISO (9001 – 2015) DNV-GL *Central Evaluation and Accreditation Agency Hanover, Germany (ZEVA) *Ministry of Education (KSA) *Ministry of Higher Education (Greece) *Ministry of Higher Education (Oman) *Commission for Academic Accreditation (CAA), Ministry of higher Education (UAE) *University of Plymouth, United Kingdom (dual degree)

Prepared by: Course Coordinator

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Reviewed by: Head of Department

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